

**REMARKS**

At the issuance of the outstanding Office Action Claims 1-20 were pending in the application and were rejected under 35 USC §102(e) as being anticipated by Timken, U.S. Patent No. 6,872,685 B2. Claims 1-6 and 8-20 were rejected under 35 USC §102(b) as being anticipated by Jaffe, U.S. Patent No. 4, 289,653. Claim 7 was rejected under 35 USC §103(a) as being unpatentable over Jaffe U.S. Patent No. 4, 289,653. In addition, Claims 1, 14-15, 17 and 20 were objected to because of certain informalities.

Applicant has amended the claims as suggested by the Examiner to overcome the objections thereto. Consequently, Applicant requests that the objections be withdrawn.

Claims 1-20 are rejected under 35 USC §102(e) as being anticipated by Timken, U.S. Patent No. 6,872,685. The outstanding Office Action states that the applied reference has a common inventor with the instant Application and that it constitutes prior art because it is the invention of another. The Timken reference and the present Application have identical inventive entities, i.e., Hye Kyung C. Timken alone. Consequently, U.S. Patent No. 6,872,685 is not available as a reference under 35 USC §102(e). Applicant therefore requests that this rejection be withdrawn.

Claims 1-6 and Claims 8-20 are rejected under 35 USC §102(b) as being anticipated by Jaffe, U.S. Patent No. 4,289,653. The outstanding Office Action points to the disclosure in Jaffe of a silica-alumina catalyst prepared by a cogel process and points to catalysts A-F which were prepared by using the weight ratio of alumina to silica in the amount of 75/25 to 70/30 in Table 1 of the

Examples. Further, the outstanding Office Action asserts that it would be considered inherent that the disclosed catalysts support would possess the same x-ray diffraction properties because both applicants and Jaffe disclose the same catalyst support.

The present invention relates to a homogeneous, amorphous cogel catalyst support comprising a modifying-metal-oxide and a base-metal-oxide. More specifically, the present invention relates to a homogeneous, amorphous silica-modified-alumina cogel catalyst support having a specified surface to bulk Si/Al ratio and certain specified X-ray defraction characteristics. A silica-modified-alumina catalyst support of the present invention maintains the desirable properties of alumina and exhibits higher resistance to acid than unmodified alumina.

A silica-modified-alumina composition in accordance with the present invention is highly homogeneous. This homogeneity is indicated by an SB ratio from 0.9 to 1.1 and further in that the breadth of the line width of the X-ray defraction peaks are significantly broader for the silica-modified-alumina as compared to a reference unmodified alumina. In addition to being homogeneous, the silica-modified-alumina compositions of the present invention are amorphous, having a low relative crystallinity than the reference unmodified alumina. The amorphous nature of the compositions of the present invention is shown by comparing the X-ray defraction patterns of modified and unmodified compositions. A silica-modified-alumina in accordance with the present invention has an overall intensity substantially lower than the reference alumina, which indicates that it is more amorphous than the reference.

In order to obtain a composition having these properties, it is critical in the preparation of a silica-alumina-cogel to have complete, vigorous mixing of the Si/Al solution with the basic precipitant, and to maintain uniform pH throughout the mixture during the precipitant addition step in the gelation stage in order to minimize formation of isolated silica domains and alumina domains (page 7, line 32-page 8, line 2 of the present specification).

U.S. Patent No. 4,289,653 to Jaffe neither discloses nor suggests the cogel compositions of the present invention. The outstanding Office Action asserts that the catalyst support disclosed by Jaffe would possess the same X-ray diffraction properties of a composition in accordance with the present invention because the present Application and the Jaffe reference disclose the same catalyst support. Applicant respectfully disagrees.

Applicant submits that the process for preparing a silica-alumina-cogel disclosed in the reference will not produce a composition having a surface to bulk ratio in the claimed range. First, as noted in the present specification, vigorous mixing and pH control are essential in the gelation stage to ensure that the resulting composition is highly homogeneous. The Jaffe reference neither discloses nor suggests such mixing or pH control. Indeed, the Jaffe reference asserts that mechanical mixing is not required (Column 3, lines 23-26). In this regard, Applicant invites the Examiner to consider the attached copy of a Declaration under 37 CFR §1.132 that was submitted in connection with U.S. Application No. 10/291,114, now U.S. Patent No. 6,872,685, which demonstrates the criticality of vigorous mixing and uniform pH. This was done with respect to U.S. Patent No. 4,988,659 Pecoraro which Applicant considers more pertinent than the Jaffe reference. Applicant also invites the Examiner's attention to the Amendment (copy attached) filed in Application No. 10/290,787, now U.S. Patent No.

6,995,112 for further discussion of the lack of disclosure or suggestion in the prior art of highly homogeneous amorphous materials as are claimed in the present Application.

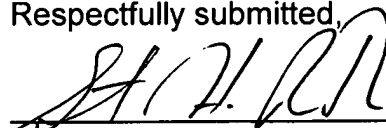
Claim 7 is rejected under 35 USC §103(a) as unpatentable over Jaffe. Applicant reiterates the above arguments and asserts that the deficiencies in the Jaffe reference render it ineffective to establish a prima facie case of obviousness.

### **CONCLUSION**

In light of the foregoing remarks and amendments to the claims, Applicant requests a favorable reconsideration of the Office Action of September 30, 2005 and an early Notice of Allowance.

The Director of Patents is hereby authorized to charge any fees which may be required, or credit any overpayment, which applies to this filing to Deposit Account Number 03-1620 for the above-referenced patent application.

Respectfully submitted,



Steven H. Roth  
Attorney for Applicant  
Registration No.: 28,467  
Telephone: (925) 842-1546  
Facsimile: (925) 842-2051

SHROTH/jl

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